

Marked-Up Version of Amended Claims

Claim 1 (amended):

1. A method for sequencing a polynucleotide, comprising the steps of:
 - (i) reacting a target polynucleotide with a polymerase enzyme immobilised on a solid support, and [the different] complementary nucleotides, under conditions sufficient for the polymerase reaction; and
 - (ii) detecting an effect consequent on the incorporation of a specific nucleotide complementary to the target polynucleotide, to thereby determine the sequence of the target polynucleotide, the detection being carried out by measuring radiation.

Claim 3 (amended):

3. The method according to claim 1, wherein steps (i) and (ii) are conducted with each of the [different] complementary nucleotides in turn, until incorporation is detected, and then repeated.

Claim 4 (amended):

4. The method according to claim 1, wherein step (i) is conducted with all the complementary nucleotides present.

Claim 5 (amended):

5. The method according to claim 1, wherein the complementary nucleotides comprise a 3' blocking group which is removed after the polymerase reaction.

Claim 6 (amended):

6. The method according to claim 5, wherein the blocking group [can be] is selectively removed by pulsed monochromatic light.

Claim 7 (amended):

7. The method according to claim 5, wherein the complementary nucleotides comprise a further blocking group at the terminal phosphate group of the triphosphate chain, and the further blocking group is removed prior to the removal of the 3' blocking group.

Claim 8 (twice amended):

8. The method according to claim 7, wherein the further blocking group [can be] is selectively removed by pulsed monochromatic light under conditions different from those required to remove the 3' blocking group.

Claim 20 (amended):

20. The method according to claim 19, wherein the incorporation of [a] the complementary nucleotide is detected using NMR.

Claim 30 (amended):

30. The method according to [claim 2] claim 1, wherein steps (i) and (ii) are conducted with each of the [different] complementary nucleotides in turn, until incorporation is detected, and then repeated.

Claim 31 (amended):

31. The method according to [claim 2] claim 1, wherein step (i) is conducted with all the complementary nucleotides present.

Claim 32 (amended):

32. The method according to claim 6, wherein the complementary nucleotides comprise a further blocking group at the terminal phosphate group of the triphosphate chain, and the further blocking group is removed prior to the removal of the 3' blocking group.